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ABSTRACT

Planned educational change tends to be imposed from the top down and increases the requirements for local reporting. This paper reports on the effects of a curriculum-planning workshop on teachers' instructional practices. Eight teachers at a Catholic college in rural Western Australia participated in a curriculum-planning workshop to learn how to use the integrated Instructional Information Management System (IIMS). They completed a questionnaire, as did a group of six teachers and two administrators who had not participated in the workshop. The participating group reported greater use of computers than did their nonparticipating counterparts. The workshop attenders continued to use the language of computing and curriculum planning. The paper concludes that focused professional development in the areas of curriculum and assessment is a vital implementation-training component of effective IIMS use. If instructional systems are not well understood, then fundamental change is unlikely to occur. One table is included. Appendices contain essential features of an IIMS and sample questionnaire items. (Contains seven references.) (LMI)

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IMPLEMENTING AN INSTRUCTIONAL INFORMATION MANAGEMENT SYSTEM (IIMS) IN A CATHOLIC SECONDARY SCHOOL

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Implementing an Instructional Information Management System (IIMS) in a Catholic Secondary School

Introduction

The history of educational reform shows that planned change tends to be imposed from the top down and managed by the imposition of regulations and mandates that increase the monitoring and reporting requirements of local schools. School administrators tend to comply with increased regulations by adopting technical solutions, which, for the sake of better control, reporting and monitoring, constrain their schools and systems leading in turn to increased uniformity and thereby reducing the development of the full potential of students and staff. The 'lock' of such systems may have been useful in helping to establish and maintain 'well run' schools from month to month, year by year, but we would argue that this was largely at the cost of inhibiting creativity, local diversity and productivity. If our schools and school systems are to become transformed rather than simply changed cosmetically, then clearly we need, not only to do things better than we do them now, but to do things differently. New information technology has a pervasive and significant role to play in this regard in assisting with the transformation of classrooms, curriculum, instruction and student learning. Instructional Information Management Systems (IIMSs) are now becoming available which are classroom oriented and professionally driven. They can be used to assist with the collaborative management and monitoring of teaching and learning effectiveness unobtrusively and in an on going way (Carter and Burger, 1994; Burger, 1995).

Deep seated change, however, is only likely to make a visible impact through a directed and sustained effort focused on teacher development, together with the application of adequate

resources to support on going staff development - especially in the area of new information technology.

With the advent of outcomes-based national curriculum/national standards in Australia and elsewhere, requiring the close monitoring and reporting of student performance against clearly formulated student 'exit outcomes', competency or benchmark statements, the management of a variety of data forms at the school level is likely to be crucial to their implementation success. In the press for more accountability, in which external standards have to be realised and publicly verified, recourse is made increasingly to new information technology for decision-support. Use of the technology, to date, has been primarily for administrative regulation based on scientific management principles rather than holistically integrating administrative requirements with the core operations of schooling including curriculum, teaching, assessment, monitoring and reporting student progress and evaluation (Carter, 1993). There is an inherent danger that, if planned change is driven by the urge for scientific management, and from an 'over the shoulder' perspective, organisational and system structures may drive curriculum and instructional design when in fact the organisation in which a curriculum is to be implemented is part of the design itself.

There are two ways of using technology to achieve information rich environments. One is for the purpose of automating: the other for informating. While there are some who clearly seek to use technology for the former purpose, it tends to become mechanistic and to isolate the human element from the process itself. Automating then is not a satisfactory means for supporting teachers and administrators and for educational problem solving. To informate,

however, is to empower educators as professionals. It is in this context that instructional leaders can work with staff in order to resolve the question of what information has to be readily available and easily accessible for them to both understand and execute certain educational processes and curricular events.

In information rich environments, on-line curriculum guides become live working documents as educators monitor, adapt and refine curriculum events on a daily basis. For outcome evaluations, supervision and accountability purposes, administrators can ascertain the extent to which a particular teacher uses a variety of instructional activities in his or her teaching, or the extent to which curriculum and its implementation matches state guidelines, standards and benchmarks or other external references. Because the IIMS automatically records detailed audit trails as staff members use it, supervisors can obtain profiles of how the performance of students and/or teachers are changing, by viewing sets of records accumulated unobtrusively through the daily operations of the school over selected periods of time.

Instructional Process

While helping people learn, grow, and develop in order to realise their full potential is ultimately what education is about, how well this is achieved in the context of national goals depends on how well teachers are motivated to work for constant improvement. This in turn is dependent on providing teachers with the resources and incentives to grow and develop as learners by reflecting on data pertinent to their own professional practice. In this regard Sarason (1990) makes an observation to the effect that if teachers, as learners, do not perceive that the appropriate conditions for their own growth obtain, they cannot be expected to create

and sustain similar conditions for their students. From this standpoint, student learning is also a function of teacher learning, development and growth.

For learning to be made more effective it has to be more closely integrated across content areas, and, excluding the primary school sector where it already substantially applies, we need to get a 'whole curriculum' perspective in a hurry concerning the vertical sequences of learning activities and their integration across classrooms at particular grade levels. Further, the monitoring of student progression towards the achievement of particular outcomes has to take place across different subject matter, different learning contexts and in using different instructional processes where time is not a constant thus acknowledging that students progress at different rates. This is a most difficult thing to accomplish and to demonstrate in practice, but we now have the software tools available to resolve some of the problems of curriculum correlation, and in directing learning sequences and monitoring and reporting their effects commencing from students' initial entry to school to their leaving as young adults.

If, as we believe, instruction makes a difference and the full potential of this for each student is to be realised, teachers must be able to capitalise on new knowledge, exercise data-based professional judgements, and acquire intimate knowledge of the changing needs of the learner in the exercise of their own creativity and spontaneity. While a well designed curriculum aligned to appropriate instructional processes is regarded as fundamental to helping each student achieve mastery of objectives, slavish adherence to the textbook and detailed attention to every objective in the curriculum is **not** a means to achieving valued outcomes. In effect it is likely to work against the desired result of raising student achievement.

For the instructional context and learning environment to be rich, a process orientation is required in which a variety of instructional strategies must be present, with students afforded the opportunity to read and discuss much more widely than is directly required for the immediate achievement of the objectives. It is also important to realise that it is not necessary, and even ill advised, to seek to control all of the activities that take place under instructional processes. What is needed is to be able to ascertain their nature at will, and to direct them differentially to learners as needed, and in the full knowledge of the extent to which external agencies are also influencing and guiding instructional processes. This places a premium on teacher planning and collaboration in order to achieve the necessary integrative perspectives with respect to both curriculum and student centred learning.

Case study

During the second half of the school year, a group of 14 secondary school teachers at a Catholic college in rural Western Australia, together with two primary school teachers from nearby schools, participated in a series of lectures and associated professional development workshops. The substantive content focused on curriculum planning using an integrated Instructional Information Management System (IIMS - see Appendix 1). Workshop activities afforded them an opportunity to use the IIMS as a planning tool in their own local context and to evaluate what the system implied for their professional practice and school organisation. The staff development workshops gave participating teachers and administrators the opportunity to deepen their knowledge about both curriculum and information technology and to have 'hands on' experience at using the IIMS as a planning tool.

An evident feature of rural schools is that they are characterised by a relatively higher staff turn-over when compared with metropolitan schools and consequently they tend to have a relatively larger proportion of. inexperienced staff then city schools. The 1994 report 'Schooling in Rural Western Australia' raised similar concerns about the inexperience of rural teachers in the following terms :

> In the Kalgoorlie District ... more than half have less than five years' experience, and only one in seven has more than fifteen years' experience and one in ten more than twenty years' experience.'
>
> (Tomlinson, 1994; p. 70)

From a costs and benefits point of view these statistics are important to change managers considering the wholesale adoption and implementation of IIMS technology. Primarily, this is because of the need for a initial high investment in system software and hardware for most schools, and also for a continuing investment in staff development in IT use. The expenditure in both dimensions is needed because it is from the integration of both social and material resources supporting new information technology that benefits can accrue to the school community on a medium and long term basis. If this expenditure is not balanced then the purchase of new technology, in our view, simply adds further to the costs of education without realising further benefits.

Prior to the adoption of IIMS technology and its subsequent implementation at the college, a considerable amount of groundwork, including advocacy, was effected by the Principal. He had obtained prior experience in using information management technology which he used as a change facilitator, in order enthuse staff about IIMSs and their potential to support school

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improvement processes. The features of the particular IIMS acquired by the College are presented in Appendix 1.

While IIMSs are capable of integrating the administrative aspects of schooling with curriculum, teaching/learning and assessment, student monitoring and review, senior staff at the College felt that there was an imperative to give people tools and skills to plan more effectively, in the first instance, in order to assist students achieve desired learning outcomes. The consensus view was that, in their shared experience as Heads of Department, they had observed that while teachers tended to write term length course programmes to submit for validation; many did not interpolate these into specific lesson plans at the point of implementation. Consequently, daily classroom level planning seemed to be both ad hoc and short term. One person expressed concern that assessment items tended to be developed at the last minute and this suggested both the lack of an overall curriculum view and insufficient attention to the alignment of Intended Learning Outcomes (ILOs) with assessment during programme conceptualisation and development. Notwithstanding the comprehensive nature of the technology to integrate a range of the core functions of schooling, given these supervisory concerns, the area of teacher planning and IIMS use was the focus for data collection in the study reported here.

Methodology

Sample

Workshop participants who experienced the new generation of information management technology comprised 8 teachers and administrators - 6 from the College and two from local

primary schools. They are referred to as the IIMS User Group in the survey data presented below. A further group of teachers and administrators within the College who had **not** undergone IIMS training were also surveyed to ascertain the extent to which they used computers as a planning tool. This group is referred to subsequently as the IIMS Non-user group.

Of the IIMS-user group, five staff members were Heads of Department, two were primary teachers (one Deputy - Religious Education) and the other a key teacher. One was a classroom teacher. The age of those returning the questionnaire was reasonably spread: 1 between 20 - 29; 3 between 30 - 39; 3 between 40 - 49 and 1 between 50 - 59.

Three had taught for five years or less, two for between ten and fifteen years, and three for more than twenty years. The non-user IIMS group consisted of six classroom teachers and two Heads of Department. Both groups came from a broad range of teaching areas.

Instrument

Initially a common questionnaire, to be administered to all staff in the sample ie. IIMS and non-IIMS users studied (N = 16), was developed. During piloting, however, it became readily apparent that there was a difference in professional discourse between the two groups. Generic terminology such as 'on-line', 'curriculum alignment' and even ILO's were unfamiliar to the non-IIMS users when referenced to their own planning. Not surprisingly, curriculum concepts related to the IIMS were specific to the IIMS-user group. Because of this the instrument was modified to accomodate a broader range of curriculum terminology than that

used initially. A section was added to the questionnaire specifically for IIMS users, but still set under the rubric of using computers as an aid to planning. In retrospect, questions evaluating the use of the IIMS should have been administered in a semi-structured interview format since this would have allowed some of the responses to be followed up in a more comprehensive way than was possible within the limitations of a questionnaire. Sample questionnaire items are included as Appendix 2.

Procedure

Initial collaboration took place between the Deputy Principal and two other senior members of staff - all of whom attended the IIMS workshops. Professional dialogue was entered into with respect to the IT aspects of the College's five year plan and the need to acquire data supporting IIMS implementation based on student and teacher needs. Data were collected from a modest survey of staff to identify differences, define needs and document implementation problems in terms of potential resistive factors to innovating with new IT. Data were required that would differentiate between staff who had undertaken IIMS professional development work and those who had not.

Teachers who had participated in the IIMS intervention were given a questionnaire requiring them to reflect on their subsequent action in using the IIMS as a planning tool. A second group of teachers who were **not** exposed to the IIMS were given a similar questionnaire asking them to reflect on their current planning practices including their use of computers in planning. Sixteen questionnaires were returned, equally divided between each of the two groups of teachers. Fourteen participants in the survey were from John Paul

College, comprising 50 % of the College's staff. The survey took place approximately six weeks after the conclusion of the staff development workshop series.

Results and Discussion

Fourteen members of the whole group (N=16) write teaching programmes. All use fairly orthodox methods of planning but there was very little difference noted in the actual planning practices between the IIMS-users and the non-IIMS users. This may be indicative that a high degree of planning for the year occurred prior to the conduct of the IIMS workshop series. While the sample surveyed is relatively small (N=16 - including 2 primary teachers in the IIMS User group), fourteen out of a College staff of 28 provided a reasonably good profile the contemporary situation with respect to IT use in the College.

Of those who responded to the questionnaire only two did most of their planning at school. The remainder, although they did some planning at school, engaged in substantial amounts of planning at home. Fourteen currently use teaching programmes as a curriculum planning device. The majority used matrices with subheadings for planning. The use of the planning matrix format with the various sub-headings relates well conceptually to the relational data base pattern of locally defined curriculum organisation within the IIMS. This is likely to assist the process of technology transfer as teachers make the transition from manual 'paper and pencil' planning to electronic fields and forms during IIMSystem implementation. All considered the elements of time, content, resources and assessments when developing their teaching programmes. Others included objectives, texts, and curriculum guidelines. One commented that he used to have a column for strategies, but didn't any more.

In the IIMS group three respondents linked activities to objectives at the lesson plan level. Four linked objectives to content at the programme level. One commented that he thought it was all done on a rather ad hoc basis. In the non-IIMS group there was an evident lack of clarity concerning the linking and alignment of objectives with other curriculum elements. A number of responses to the item probing the link between lesson plans and programmes confirmed that this nexus was where the linking of objectives with daily instruction actually occurred.

The respondents had a clear idea about why they engaged in detailed planning. Their answers reflected a commitment to curriculum planning and a recognition of the value of detailed planning in structuring courses and instruction. Recurrent responses concerned the management of time and ordering sequences and the meeting of course requirements which could be could be done effectively by means of the IIMS.

All the respondents (N=16) established the need for a clear link between lesson plans and programmes, thus any method of aligning curriculum with instruction and assessment directly by means of technology would be advantageous. Once data were entered in the IIMS it would eliminate certain redundancies in the current practice of manually transferring course information from programme(s) to lesson plan(s). Some of the respondents indicated that they had moved towards this practice through the use of 'cut and paste' facilities currently available in standard word processing packages.

In the IIMS Group, three commented that they had changed their approach to planning on completing the IIMS training workshops since they now sat down with objectives/course outlines and constructed carefully aligned, hence content valid, assessment items, rather than relying hitherto on 'gut feeling'. Three commented that they turned to this on conclusion of their programme development and only assessed what they had actually taught. One respondent engaged this procedure cyclically and, assessed as students were observed to have developed appropriate skills and competencies.

Although they used different strategies the, IIMS-group had a fairly clear idea about the 'what' and 'how' of linking intended learning outcomes to assessment items. The non-IIMS group were less clear about this although all responded to the effect that they constructed items based on objectives. The same response pattern was evident in the question regarding the linking of assessment items to specific intended learning outcomes. This finding suggests that focused professional development in the area of curriculum and assessment is a vital implementation training component if the IIMS is to be used effectively in support of these activities. The fact that three of the IIMS User Group commented, since completing the workshops, they had changed their assessment strategies when formalising links to student outcomes, highlights the potential benefits to be gained in professional development activities in this area.

Within the IIMS User Group, seven respondents owned a computer and one was in the process of buying hardware. Only one did not use a computer in planning. Five used computers for programmes and lesson notes; four for lesson plans and six for assessment

items. Computers were also used as marks books and for student worksheet development and storage. Six of the IIMS Non-user Group owned a computer, but two did not. It is noteworthy that ownership of computers in this group was almost as high as the IIMS User Group; however, **use** of the computer was much lower. Only one used the computer for programming, lesson plans and notes. Five used the computer for lesson plans. Three did not use the computer at all as a planning tool. A comparison of responses in the section of the questionnaire probing computer use for planning purposes between the two groups is summarised, given the small sample size and ordinal nature of the data, in its raw form in Table 1.

For the sample studied, there is a pronounced interest in developing further skills in computer use, and in the application of these to more effective planning using the computer as a planning device. This is evidently stronger within the IIMS User Group. Several respondents are not at all confident that they are computer literate, and 2 are clearly not confident in using computers per se. Six respondents, however, are confident to very confident in using computers and this finding can be used within the College's implementation plan to support further teacher development through collaborative learning in IT use.

Table 1: Summary of Computer Use between IIMS User and Non-user Groups (N = 16)

Use of a computer when planning
(Please circle - 1 = Strongly agree: 5 = Strongly disagree: * = no response)

	USERS						NON-USERS					
	1	2	3	4	5	*	1	2	3	4	5	*
I have adequate access to computers at school for preparation/planning purposes	2	1	1	1	3		2	1		1	2	2
I consider my self to be computer literate	6		2				1	3	1		3	
I am interested in further developing my skills on the computer	8						5	1	2			
I have reservations about using computers in preparation/ planning	1	2		1	4			1	1	1	5	
I am concerned that using computers in preparation/ planning will take too much time	5			2	1		1	1	1	3	2	
I am not confident in using computers	2		2	2	2			2	1		5	
I would be interested in using computers to make my planning more effective	5		3				4	3	1			
I would be interested in using computers to become more time-efficient in my planning	5	2		1			4	3	1			

There was a varied pattern of responses regarding access to computers which needs to be examined further since it a priority for implementation success for IIMS use across the school. While overall 11 of the respondents had no reservations in using the computer in planning, 3 out of 8 in the IIMS User Group expressed some reservations here. Somewhat surprisingly, this response pattern is higher than that recorded within the non-IIMS group - Table 1. Generally, the results show that within the College while there is a cadre of people who are confident and competent in computer use, there would need to be a lot of preliminary work in

developing generic skills and competence regarding computer literacy concomitant with IIMS implementation

The final section of the questionnaire elicited information specific to the IMS User Group (N=8). All agreed that the IIMS was instrumental in linking ILO's directly with instruction; in aligning the web of relationships that occur between curriculum, instruction and assessment (Hextall,1988) and in aligning all of these with external standards and benchmarks. Comments included, "It has the potential to show exactly what objectives have been met and which haven't. It could keep track of what to teach". " ... being able to link folders and flick back and forth when planning lessons ensures that strategies link to and follow from purposes". "... teach and revise ILO's".

Six respondents agreed that IIMSs had great potential in assisting teachers to assess student abilities more effectively and that it was easier to keep in view all relevant information and to keep track of the alignment. One, however, was unsure about it's impact. One thought that in theory the technology had great potential in this area, but had doubts about its application in practice due to operational time constraints.

Five agreed that future use would be very efficient. However, all also expressed concern about the need for large amounts of professional development time in the early implementation stages. Four noted the need for a lot of 'on-line' material to be stored if the process was to be time-efficient'.

College staff who have used IIMS have had the opportunity to use this new information technology as a planning tool. They are now in a position to reflect on how this change has changed their behaviour and thinking with regard to planning. There have been observable changes in language, discourse and social groupings since the IIMS workshops concluded. The IIMS User Group continue to use the language of the computing and curriculum. A number of the IIMS User Group have reported they have revised their ideas on planning and as a result have changed their practices. While The IIMS User Group hasn't become a distinct social group within the College community, members say they share a common professional identity and regard themselves as a source for sharing ideas with other staff in the area of IIMS technology and curriculum.

There is a renewed interest across the staff in using information technology as a planning tool, but extensive professional development will be necessary in the areas of curriculum development, computer literacy and relational data base technology if the system is to make an impact on the organisational effectiveness of the College, as well as on what happens behind the classroom door.

Conclusion

In this paper it has been argued that IIMS software is an essential element to be integrated into the conceptualisation, adoption and maintenance of any curricular and instructional processes that we care to design and implement, allowing for stringent accountability criteria to be met in the provision of a general education for all students that can be justified in its own terms. Good responsive software design allows for the establishment of relationships between

curriculum elements, instructional process and assessment and evaluation thereby facilitating alignment between each of them and with external standards. Moving toward outcomes-based education will help schools monitor their performance more effectively and thereby improve the quality of teaching and learning.

The use of a new generation of software tools with great transformative potential, such as those described above, may help us break the lock of at least some of the constraints that have previously inhibited us in bringing about classroom change and school improvements. Ultimately, implementation success has to be judged in terms of the achievement of student learning outcomes, as well as in improved management practices and restructured environments supportive of the notion that all students can learn, and that it is the responsibility of schools to ensure that in fact they do.

Realising this vision is likely to place heavy demands on curriculum management and require the exercise of high quality leadership (Carter, Glass and Hord, 1993). As already asserted in this paper, and developed as one of its main themes, we now have a new generation of information technology available, which, when allied to human capacities and a vision of the future that we hold, can assist the transformation of schools. The caveat is, however, that if we do not at the same time attend to the deepening of vision and ensure that instructional systems are well understood, then fundamental change is unlikely to occur regardless of the technology in place.

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Appendix 1 - Essential Features of an Instructional Information Management System

Using powerful relational data base technology IMSeries™ is the first of a new generation of instructionally driven Information Management Systems (IIMSs) for use in education and training contexts. It's features are summarised below.

Curriculum Development and Design

Curriculum

- Defines structure and content
- Import and export
- Develop, maintain and analyse without using codes
- Maintain multiple lists of external standards against which locally developed curricula can be aligned to meet national, state and local standards
- Combine graphics and formatted text in developing reports

Maintain

- Review and revise common elements (eg., subjects, courses, concepts, objectives, activities, resources, questions and evaluation strategies)
- Control and alter sequences of curriculum elements at all levels of the curriculum
- Easily move and copy sections
- Identify gaps and overlaps in student skill development and/or instructional strategies
- Allow users to extend existing, or define new sets of standards against which local curricula and instruction might be analysed
- Store graphics and text-based instructional resources and automatically manage them as part of the broader curriculum
- Print curriculum reports and results of queries to ASCII files, to the system printer, or to the screen for previewing.

Analyse

- Analyse curricula horizontally and vertically
- Determine frequency and location where specific external standards are, and are not, addressed
- Conduct ad hoc queries to obtain any information about curricula and how they are organised, what content they contain, or where specific content is contained
- Search for specific information (at all levels) based on words and word combinations

Instruction and Assessment

Planning

- Construct and maintain detailed lesson and other instructional plans for different types of teaching/learning
- Validate what has been taught to each student
- Design instruction and assignments that align with student outcomes
- Coordinate planning of instruction with colleagues
- Examine instructional histories for any student (test scores, demographics, lessons/instructional episodes implemented, student performance data, disciplinary information and attendance
- Plan for special needs students who are mainstreamed
- Access LAN/WAN (including Internet) resource banks
- Articulate curriculum and instructional planning across grade levels, programs and sites.

Delivery

- Group students for remedial/extension work
- Locate instructional strategies and resources quickly (regional, district and within campus)
- Scan for available internal and external resources and media
- Determine what instruction has occurred during any given period of time, thus allowing for quick identification and development of student make-up work
- Link CAI lessons back into design processes
- Given a selected intervention, examine probability of implementation success through the analysis of trends and student patterns of performance
- Facilitate student or teacher initiated cooperative learning
- Facilitate flexible student grouping strategies while maintaining an audit trail of instruction delivered to each student

Assessment

- Communicate instructional and evaluation information to parents and significant others in a variety of data forms and formats
- Supports a wide variety of assessment strategies and ways to record student performance
- Maintain electronic portfolios (certification of skills, observational data, anecdotal notes, writing samples, process/content based evaluations, soundbites and QuickTime movies of student performance and rehearsal of competencies)
- Graph performance profiles for any time frame and student outcome(s)
- Allow for continuous evaluation of student progress so that instruction can be more closely matched to individual needs
- Develop progress reports for student/parent/system information
- Automatically generate tests and assignments
- Analyse student performance and growth by any skill, construct, knowledge area, or outcome

Appendix 2 - Sample Questionnaire Items

Current planning practices

Programming

- Do you write programmes for the courses that you teach?
-

If your answer is **no:** What do you use as an alternative for planning your course?

If your answer is **yes:**

- When do you do your programme planning? (Choose from the list below)
- Why do you write programmes?
- What format do you use for programming?
- How do you use your programmes to link intended learning outcomes (or objectives) to instructional activities?

Lesson Planning

- What format do you use for lesson planning?
- How do you align your lesson plans to your teaching programme?
- In what ways do your programmes assist you at the lesson plan level?

- **Assessment**
- When do you produce your overall weighted assessment outline/matrix for the courses you teach?
- When do you decide which intended learning outcomes or objectives to assess in each item?
- How do you link your assessment items to intended learning out comes or objectives?

Use of a computer when planning
(Please circle - 1 = Strongly agree: 5 = Strongly disagree)

I consider myself to be computer literate.	1 2 3 4 5
I am interested in further developing my skills on the computer.	1 2 3 4 5
I am concerned that using computers in planning/preparation will take too much time.	1 2 3 4 5
I am not confident in using computers.	1 2 3 4 5
I would be interested in using computers to make my planning more effective.	1 2 3 4 5

IIMS Users
In what ways do you consider that an IIMS can assist you in your planning in the following areas:

- Aligning ILO's with content and teaching/learning processes?
- Assessing effectively and validly
- If you were to use the IIMS for planning, what other 'on-line' information would you like to see?
- What reservations/concerns do you have about IIMS use for planning?